

MR1035-1386
Application Serial No. 10/777,168
Responsive to Office Action dated 24 November 2004

AMENDMENTS TO THE CLAIMS:

This Listing of Claims will replace all prior versions, and listings of Claims in the Application:

Listing of Claims:

Claim 1 (currently amended) A reflective type light valve projection device comprising:

an incident light source for providing an incident light;

a first dichroic beam splitter/combiner located on the optical path of said incident light for reflecting a first primary color to separate said first primary color from a second and a third primary colors;

a second dichroic beam splitter/combiner located on the optical path of said incident light for separating the second and third primary colors passing through said first dichroic beam splitter/combiner, each of said first and second dichroic beam splitter/combiners having separate and distinct beam splitting and beam combining regions formed thereon and being formed in one-piece formation, each said beam splitting region being coated with a first ~~optical film layer~~ film coating for separating a respective primary color of light from incident light, each said beam combining region being coated with a second ~~optical film layer~~ film coating for combining a respective primary color of light with a transmitted light ray;

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three light valves including a first light valve, a second light valve and a third light valve and used as image modulating devices, said three light valves respectively modulating and reflecting the three primary colors separated by said first and second dichroic beam splitters/combiners to let said first and second dichroic beam splitters/combiners collect the modulated and reflected first and second primary colors; and

a projecting lens for collecting the three primary colors reflected and transmitted by said first and second dichroic beam splitters/combiners after modulation to project out a full-color image.

Claim 2 (original) The reflective type light valve projection device as claimed in claim 1, wherein said first light valve and said third light valve are symmetrically arranged with said first dichroic beam splitter/combiner as the reference plane, and said third light valve and said second light valve are symmetrically arranged with said second dichroic beam splitter/combiner as the reference plane.

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Claim 3 (original) The reflective type light valve projection device as claimed in claim 1, wherein said first and second dichroic beam splitters/combiners can be crosswise arranged.

Claim 4 (original) The reflective type light valve projection device as claimed in claim 3, wherein said first, second and third light valves are so arranged that the optical path of said modulated and reflected third primary color, the optical path of said second primary color reflected by said second dichroic beam splitter/combiner after modulation, and the optical path of said first primary color reflected by said first dichroic beam splitter/combiner after modulation overlap mutually.

Claim 5 (original) The reflective type light valve projection device as claimed in claim 1, wherein said first light valve, said second light valve and said third light valve are a red liquid crystal panel, a green liquid crystal panel and a blue liquid crystal panel, respectively.

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Claim 6 (original) The reflective type light valve projection device as claimed in claim 1, wherein said first, second and third light valves are digital light processors.

Claim 7 (previously presented) The reflective type light valve projection device as claimed in claim 1, wherein an s-p polarization conversion device is further disposed outside said incident light source for converting polarity of said incident light, and said incident light first passes through said polarization conversion device before entering said first and second dichroic beam splitters/combiners.

Claim 8 (previously presented) The reflective type light valve projection device as claimed in claim 1, wherein a polarization selection component is further disposed outside said incident light source for initially polarizing said incident light, and said incident light first passes through said polarization selection component before entering said first and second beam splitters/combiners.

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Claim 9 (original) The reflective type light valve projection device as claimed in claim 5, wherein a polarization selection component is further disposed outside said incident light source, and said incident light first passes through said polarization selection component before entering said first and second beam splitters/combiners.

Claim 10 (original) The reflective type light valve projection device as claimed in claim 1, wherein a polarization selection component can further be disposed in front of said projection lens after said light leaving said first and second dichroic beam splitters/combiners.

Claim 11 (previously presented) The reflective type light valve projection device as claimed in claim 5, wherein a polarization selection component can further be disposed in front of said projection lens after said light leaving said first and second dichroic beam splitters/combiners.

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Claim 12 (original): The reflective type light valve projection device as claimed in claim 1, wherein a reflecting mirror can further be provided outside said light source to change the projection direction of light.

Claim 13 (original) The reflective type light valve projection device as claimed in claim 5, wherein a reflecting mirror can further be provided outside said light source to change the projection direction of light.

Claim 14 (original) The reflective type light valve projection device as claimed in claim 6, wherein a reflecting mirror can further be provided outside said light source to change the projection direction of light.

Claim 15 (original) The reflective type light valve projection device as claimed in claim 1, wherein the beam splitting and combining regions of said two dichroic beam splitters/combiners do not overlap each other.

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Claim 16 (currently amended) The reflective type light valve projection device as claimed in claim 1, wherein the beam splitting and combining regions of said two dichroic beam splitters/combiners each have different film ~~thicknesses~~ structures.

Claim 17 (original) The reflective type light valve projection device as claimed in claim 1, wherein the beam splitting and combining regions of said two dichroic beam splitters/combiners are on different mirrors glued together.

Claim 18 (original) The reflective type light valve projection device as claimed in claim 1, wherein the beam splitting and combining regions of said two dichroic beam splitters/combiners are on different mirrors assembled together.

Claim 19 (currently amended) The reflective type light valve projection device as claimed in claim 1, wherein an infrared filter can further be provided before said light entering said first and second dichroic beam splitters/combiners to separate infrared light from said three primary colors, thereby preventing infrared light from entering

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said first and second dichroic beam splitters/combiners and said light valves, each of said first and second dichroic beam splitters/combiners defining a mirror.

Claim 20 (currently amended) The reflective type light valve projection device as claimed in claim 1, wherein an ultraviolet filter can further be provided before said light entering said first and second dichroic beam splitters/combiners to separate ultraviolet light from said three primary colors, thereby preventing ultraviolet light from entering said first and second dichroic beam splitters/combiners and said light valves, each of said first and second dichroic beam splitters/combiners defining a mirror.

Claim 21 (previously presented) The reflective type light valve projection device as claimed in claim 19, wherein said infrared filter and said ultraviolet filter are each formed on a respective one of said mirrors.

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Claim 22 (previously presented) The reflective type light valve projection device as claimed in claim 20, wherein said infrared filter and said ultraviolet filter are each formed on a respective one of said mirrors.

Claim 23 (currently amended) A reflective type light valve projection device comprising:

an incident light source for providing an incident light;

a first dichroic beam splitter/combiner located on the optical path of said incident light for reflecting a first primary color to separate said first primary color from a second and a third primary colors;

a second dichroic beam splitter/combiner located on the optical path of said incident light for separating the second and third primary colors passing through said first dichroic beam splitter/combiner, said first dichroic beam splitter/combiner being disposed in a non-orthogonal crossed arrangement with said second dichroic beam splitter/combiner;

three light valves including a first light valve, a second light valve and a third light valve and used as image modulating devices, said three light valves respectively modulating and reflecting the three primary colors separated by said first and second dichroic beam splitters/combiners to let said first and second dichroic

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beam splitters/combiners collect the modulated and reflected first and second primary colors; and

a projecting lens for collecting the three primary colors reflected and transmitted by said first and second dichroic beam splitters/combiners after modulation to project out a full-color image, wherein said first light valve and said third light valve are symmetrically arranged with said first dichroic beam splitter/combiner as the reference plane, and said third light valve and said second light valve are symmetrically arranged with said second dichroic beam splitter/combiner as the reference plane.